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July 9, 2010

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Kansas City District
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ATTN: CENWK-PM-ES/Buckrucker

CONTRACT: W912DQ-08-D-0018

PROJECT: Lower Passaic River Restoration Project
Remedial Investigation/Feasibility Study Oversight
Lower Passaic River Study Area, New Jersey

SUBJECT: Quality Assurance Project Plan, Addendum #6
Habitat Identification Survey

Dear Ms. Buckrucker:

CDM Federal Programs Corporation (CDM) is pleased to submit this electronic copy of the Quality Assurance Project Plan, Addendum No. 6 for the Oversight of Remedial Investigation/Feasibility Habitat Identification Survey in support of the Lower Passaic River Restoration Project in the Lower Passaic River Study Area, New Jersey. This document is based on the CPG's Benthic QAPP Addendum Number 3.

If you have any comments concerning this submittal, please contact me at (212) 377-4056.

Very truly yours,
CDM FEDERAL PROGRAMS CORPORATION

A handwritten signature in black ink, appearing to read 'C. Tsang'.

Frank Tsang, P.E.
Task Order Manager

Attachment

cc: S. Vaughn, EPA
J. Mosher, P.E., CDM (Letter Only)
G. Molnar, CDM
Project File

Bill Sy, EPA
S. Budney, CHMM, CDM
J. Oxford, CHMM, CDM

US Army Corps of Engineers
Kansas City District

Quality Assurance Project Plan
Addendum #6
Habitat Identification Survey

Remedial Investigation/Feasibility Study Oversight
Lower Passaic River Restoration Project
Lower Passaic River Study Area, New Jersey

USACE Contract No. W912DQ-08-D-0018
Task Order No. 014

July 9, 2010

**LOWER PASSAIC RIVER RESTORATION PROJECT
OPERABLE UNIT (OU) 2**

**Remedial Investigation/Feasibility Study Oversight
Quality Assurance Project Plan
Addendum#6
Habitat Identification Survey**

Lower Passaic River Study Area, New Jersey

USACE CONTRACT No. W912DQ-08-D-0018

TASK ORDER No. 014

July 9, 2010

**Prepared for:
U.S. Army Corps of Engineers
Kansas City District**

**Prepared by:
CDM
125 Maiden Lane, 5th Floor
New York, New York 10038**

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Note: Worksheets not included herein are included in the Physical Water Column Monitoring/Generic Final QAPP dated March 9, 2010.

Introduction

CDM Federal Programs Corporation (CDM) will perform oversight of the Cooperating Parties Group (CPG) Habitat Identification Survey.

This Quality Assurance Project Plan (QAPP) Addendum and the *Lower Passaic River RI/FS Oversight Final QAPP, Physical Water Column Monitoring and Generic Information for Upcoming Tasks*, dated March 2010 (hereafter referred to as the Final QAPP) is the governing document for execution of this oversight. CDM will use the various plans prepared by the CPG contractors to verify proper execution of the Habitat Identification Survey, conducted as part of the RI/FS.

The March 2010 Final QAPP indicated that future oversight tasks assigned to CDM would be appended with selected worksheets. It was anticipated that Worksheets 12, 15, 18, 20, and 28 would be updated as needed for additional events, and other worksheets would also be included. However since the habitat identification survey will not include analytical services, worksheets 12, 15, 20, and 28 are not required for this update. Instead, the following worksheets are included in this addendum to reflect the CPG QAPPs, *Benthic and Invertebrate Toxicity and Bioaccumulation Testing* (Windward 2009) and Benthic QAPP Addendum No. 3: Habitat Identification Survey

- Worksheet No. 1 contains the title and approval pages for the addendum
- Worksheet No. 2 contains the QAPP identifying information
- Worksheet No. 3 provides the distribution list
- Worksheet No. 10 describes the specific problem definition for the Habitat Identification Survey
- Worksheet No. 11 provides the project quality objectives
- Worksheet No. 14 provides a summary of project tasks
- Worksheet No. 16 provides the schedule and timeline
- Worksheet No. 18 provides the proposed survey locations
- Worksheet No. 37 provides the usability assessment (field summary report)

The CPG's Benthic QAPP Addendum No. 3 provides procedures for conducting the habitat identification survey.

1.1 Habitat Identification Survey

CDM's oversight program is designed to provide technical review and evaluation of the CPG's implemented QAPPs for the habitat identification survey. Additional oversight activities will include review of CPG-selected survey locations and supporting documents.

This oversight QAPP details the planning processes for conducting field oversight; no samples will be collected. The objective of CDM's observations and review is to verify the accuracy of the CPG's data.

QAPP Worksheet #1
Title and Approval Page

Document Title: LPR Restoration Project Quality Assurance Project Plan (QAPP) Addendum No. 6, Habitat Identification Survey

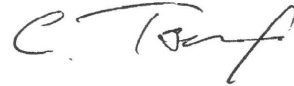
Lead Organization: United States Army Corps of Engineers (USACE) – Northwestern Division

Preparer's Name and Organizational Affiliation: Tonya Bennett, CDM

Preparer's Address, Telephone Number, and E-mail Address: 125 Maiden Lane, New York, NY 10038; 212-377-4532; bennetttm@cdm.com

Preparation Date (Day/Month/Year): July 9, 2010

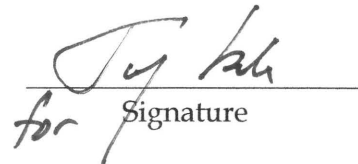
Investigative Organization's Task Order Manager/Date:



Signature

Frank Tsang/CDM

Investigative Organization's Project QA Manager/Date:



Signature

Doug Updike/CDM

Lead Organization's Project Manager/Date:

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Elizabeth Buckrucker/USACE – KC District

EPA Remedial Project Manager /Date:

Signature

Stephanie Vaughn

EPA Quality Assurance Officer /Date:

Signature

William Sy

Document Control Numbering System: Not Applicable (N/A)

QAPP Worksheet #2

QAPP Identifying Information

Site Name/Project Name: Lower Passaic River (LPR) Restoration Project	Title: QAPP Addendum No. 6, Habitat Identification Survey
Site Location: LPR study area, New Jersey	Revision Number: 0
Site Number/Code: NJD 980528996	Revision Date: NA
Operable Unit (OU): OU2	
Contractor Name: CDM	
Contractor Number: W912DQ-08-D-0018	
Contract Title: Unrestricted Indefinite Delivery/Indefinite Quantity, Multiple Award Contract, for Architect-Engineer (AE) Environmental Services for EPA Region 2 and the Corps of Engineers Northwestern Division.	
Task Order Number: 14	

1. Regulatory program: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Superfund)
2. Approval entity: United States Army Corps of Engineers (USACE)
3. The QAPP is (select one): Generic ☒ **Project Specific**
4. Dates of negotiation: NA
5. Dates and titles of QAPP documents written for previous and current site work, if applicable:

Title	Approval Date
See Final QAPP for a full list of previous QAPP prepared for site work	
LPR RI/FS Oversight Final QAPP, <i>Physical Water Column Monitoring and Generic Information for Upcoming Tasks (PWCM/Generic QAPP)</i>	March 2010
LPR RI/FS Oversight QAPP, Draft Addendum #1: <i>Avian Community Survey</i>	TBD
LPR RI/FS Oversight QAPP, Final Addendum #2: <i>Fish Community Survey</i>	June 8, 2010
LPR RI/FS Oversight QAPP, Final Addendum #3: <i>Benthic Community Survey</i>	June 8, 2010
LPR RI/FS Oversight QAPP, Addendum #4: <i>Surface Sediment Sampling Co-located with the Small Forage Fish Tissue Samples during the Summer 2010 Benthic Community Survey oversight</i>	TBD

6. Organizational partners (stakeholders) and connection with lead organization: EPA, USACE, New Jersey Department of Environmental Protection (NJDEP), New Jersey Department of Transportation (NJDOT), National Oceanic Atmospheric Administration (NOAA), United States Fish and Wildlife Service (USFWS)
7. Data users: EPA, USACE, Partner Agencies, CDM, Louis Berger Group, Inc., HydroQual, Inc., and stakeholders.
8. If any required QAPP elements and required information are not applicable to the project, then circle the omitted QAPP elements and required information on the attached table. Provide an explanation for their exclusions below: the Final Generic QAPP provides all the required worksheets. *This addendum addresses only the oversight of the Habitat Identification Community Surveys; therefore only worksheets pertinent to this task and information not previously provided are included.*

This is an oversight project; therefore, the CPG's contractors will be performing any health and safety monitoring, and will be responsible for equipment calibration, inspection and maintenance (survey instruments). CDM will monitor the field activities and document observations.

QAPP Worksheet #3 Distribution List

QAPP Recipients	Title	Organization	Telephone Number	Fax Number	E-mail Address
Stephanie Vaughn	Remedial Project Manager (RPM)	EPA	(212) 637-4427	(212) 637-4393	Vaughn.stephanie@epamail.epa.gov
Elizabeth Buckrucker	Project Manager (PM)	USACE	(816) 389-3581		elizabeth.a.buckrucker@usace.army.mil
William Sy	QA Officer	EPA	(732) 632-4766	(732) 321-6622	Sy.william@epa.gov
Janine MacGregor	Partner Agency	NJDEP	(609) 633-0784		Janine.macgregor@dep.state.nj.us
Elkins Green	Partner Agency	NJDOT	(609) 530-8075		elkins.green@dot.state.nj.us
Tim Kubiak	Partner Agency	USFWS	(609) 646-9310		tim_kubiak@fws.gov
Reyhan Mehran	Partner Agency	NOAA	(212) 637-3257		Reyhan.mehran@noaa.gov
Jeanne Litwin	Project Manager	CDM	(212) 377-4524	(212) 785-6114	litwinJ@cdm.com
Frank Tsang	Task Order Manager	CDM	(212) 377-4056	(212) 785-6114	Tsangc@cdm.com
Sharon Budney	Deputy Task Order Manager	CDM	(732) 590-4662	(732) 225-7851	budneysl@cdm.com
Jeniffer Oxford or other assigned QAC	Regional QA Coordinator (RQAC)/ Project QA Officer	CDM	(212) 377-4536	(212) 785-6114	oxfordjm@cdm.com
George Molnar	Field Task Leader	CDM	(732) 590-4633	(732) 225-7851	molnargc@cdm.com
Scott Kirchner	Analytical Services Coordinator	CDM	(732) 590-4677	(732) 225-7851	kirchnersf@cdm.com
James Fitzpatrick	Sediment Transport Modeler	HydroQual	(201) 529-5151	(201) 529-5728	jfitzpatrick@hydroqual.com

QAPP Worksheet #10

Problem Definition

The problem to be addressed by the project:

Habitat Identification Survey: As part of the LPR restoration project, the CPG will conduct a habitat identification survey to provide qualitative data on the species that use the Lower Passaic River Study Area (LPRSA). Previous investigations along the river only represent the lower portion of the LPRSA (River mile 1 through 7). The goal of CDM's oversight is to evaluate the CPG's contractor collection of habitat characteristics and shoreline features of the upper portion of the LPRSA (River mile 7 through 17.4). Surveys will be conducted during a 4 day consecutive period in August 2010. The oversight program is designed to provide observation, technical review and evaluation of the CPG-implemented field plans to ensure that the CPG's contractors conduct the Habitat Identification surveys in accordance with their approved QAPPs.

The environmental questions being asked:

- Does the CPG data adequately describe the LPRSA habitat characteristics and shoreline features and are they representative for project decisions?
- Is the CPG data complete and accurate?
- Does the CPG data capture the variation of the diversity and abundance of the habitat along the LPRSA?
- Is the CPG habitat identification survey being completed in a consistent fashion?
- Is the CPG survey correctly identifying each habitat type, shoreline feature and human activity and access points?
- Are the field observations comparable?
- Is CDM's field observation complete?

Secondary data:

The CPG used the secondary data provided in Worksheet No. 13 of their *Benthic and Invertebrate Toxicity and Bioaccumulation Testing* QAPP (Windward 2010) Benthic QAPP Addendum No. 3. CDM reviewed the Benthic QAPP Addendum No. 3 and provided comments. Future use of the secondary data may be to provide technical review of CPG documents.

The possible classes of contaminants and the affected matrices: Not applicable

The rationale for inclusion of chemical and non-chemical analyses: Not applicable

Project decision conditions ("If..., then..." statements):

- If field work is inconsistent with the CPG QAPPs, then the field oversight staff will verify tasks with respect to the CPG's QAPPs, and HASP and note deviations with the CPG's field project leader and document such discussions in the Daily Field Summaries submitted to EPA. The CDM Deputy Task Order Manager, USACE PM and EPA RPM will be informed if there are deviations.
- If the CPG team needs to relocate survey locations, or there are any changes to the planned field program, CDM will communicate this change to the USACE and document it on the Daily QC Reports.

CDM will present the data findings in a report and submit it to the USACE and EPA who will then determine if any additional actions are required.

QAPP Worksheet #11

Project Quality Objectives /Systematic Planning Process Statements

<p>Who Will Use the Data? USACE, EPA and other partner agencies, CDM, and stakeholders (as necessary).</p>
<p>What Will the Data be Used For?</p> <p>Oversight activities will monitor the CPG-implemented habitat identification survey program to verify that elements of the approved RI/FS QAPPs are fulfilled. The oversight field crew will also review the CPG-selected survey locations. CDM observed data will be compared to the data observed by the CPG to determine if a bias exists in the data produced by the CPG and if the data is complete.</p> <p>The CDM oversight data will be used for comparison with the CPG data and to determine whether the CPG data is accurate and compliant with the approved QAPPs.</p> <p>To further achieve these objectives, CDM field personnel will observe the CPG's contractors field implementation of the RI/FS QAPPs and note any deviations. Deviations will be brought to the attention of the CPG's contractor, and reported to the CDM Deputy Task Order Manager who will communicate this information to the USACE PM and EPA RPM. These will be documented in the Daily Field Summaries and in the Final Report and include a discussion of the impact of the deviation(s) on the data quality. The CPG contractor's activities will be documented in the field logbook and oversight forms. A copy of the oversight form is provided in Appendix I of this QAPP.</p>
<p>What Type of Data is Needed?</p> <p>Data needs include: CDM will observe the survey conducted by the CPG's contractor to document information on the habitat characteristics (e.g; low marsh), shoreline features (e.g; bulkhead or riprap) and human activity and access points along river mile 7 through 17.4 of the LPRSA. Data will include when possible plant community types, dominant plant species and habitat features such as overhanging vegetation, large woody debris. Human activity features such as parks and docks will also be documented. These will be conducted during a 4 day consecutive period in August 2010.</p>
<p>How much data are needed?</p> <p>Oversight observations will be made at the locations shown on Figure 1 and Worksheet No: 11 of the CPG's Benthic QAPP Addendum No 3, Habitat Identification Survey or as modified and approved by USACE and EPA. Observations will be conducted at the same locations, times and frequency as the CPG contractor's surveys. Worksheet No. 11 of the CPG's Benthic QAPP Addendum No. 3 discusses the planned locations for surveying along the banks of the main stem and tributaries of the LPRSA.</p>
<p>How "good" do the data need to be in order to support the environmental decision?</p> <p>The data to be collected is qualitative in nature, therefore quantitative limits and quantitative quality objectives are not applicable. The oversight observation will mirror the CPG locations, level of identification and frequencies to allow data comparability. CDM's oversight staff will document whether the observed level of identification is comparable with the CPG's report and the levels presented in Table 11-1 of the CPG's Benthic QAPP (Windward 2009). The representativeness of the data is dependent on the survey strategy.</p> <p>In addition, to ensure that the observed data is usable, the accuracy, representativeness, comparability, and completeness will be evaluated and presented in a CDM data report. The data usability assessment will evaluate whether appropriate field procedures were followed and whether data met the approved QAPP and are usable for the stated project needs.</p>
<p>Where, when, and how should the data be collected?</p> <p>Field survey procedures are described in the CPG's Benthic QAPP Addendum No. 3. Oversight will be performed according to the CPG's schedule. The survey will be conducted during a 4 day consecutive period in August 2010. The survey locations are discussed in the CPG Benthic QAPP Addendum No. 3; the survey includes the tidal stretch of the LPRSA from the mouth to Dundee Dam, including the tidally influenced portions of the tributaries (See Figure of Appendix I).</p> <p>1. The CPG's Benthic QAPP (Worksheet #11 and Attachment R) details the survey procedures which describe how the investigation will be performed.</p>

QAPP Worksheet #11
Project Quality Objectives /Systematic Planning Process Statements

Who will collect and generate the data?

CDM oversight staff will record field observations during the field habitat survey program.

How will the data be reported?

Field observations will be recorded as described in CDM's Final QAPP using field oversight forms provided in Appendix I of this QAPP. Oversight staff will also record notes in field logbooks in accordance with TSOP 4-1 provided in Appendix C of the CDM Final QAPP. Results will be reported in text format and will include a discussion of the data quality, deviations from the QAPP, and oversight data comparability with the CPGs data. This review will be used to evaluate the accuracy of the CPG data.

How will the data be archived?

- Hard copies of the field notes will be kept in the Edison office until archived in the project file; if requested survey data will be uploaded to a PREmis or equivalent database.

The CDM March 2010 Final QAPP contains other archival information.

QAPP Worksheet #14 Summary of Project Tasks

Sampling Tasks:

As part of the LPR Restoration Project, the CPG is implementing an estuarine dynamic and sediment transport, and biological field sampling program to support the RI/FS. On behalf of the USACE and EPA, CDM will provide oversight and will record observations at all locations. The oversight program is designed to provide technical review and evaluation of CPG-implemented field plans. Worksheet 10 discusses the oversight activities that will occur; and Worksheet 11 provides details on the data to be collected. CDM is tasked to observe and document the sampling conducted during the surveys.

Analysis Tasks:

Split samples will not be collected during oversight of the habitat identification survey. Oversight forms (Appendix I of this QAPP) documenting field observations will be completed by CDM's oversight staff.

Quality Control Tasks: CDM will observe CPG's calibration, testing and maintenance of their GPS units. CDM will document observations of the survey on field logs and in the field logbooks. The CDM Deputy Task Order Manager or designee will review the field notes to ensure that the required information has been documented.

Secondary Data: Since this is an oversight project, no secondary data is being used directly by CDM. Data generated by the CPG- field program will be used as shown on worksheet 11 of the CPG's Benthic QAPP Addendum No. 3: Habitat Identification Survey.

Data Management Tasks:

Observations of the surveys will be documented as described above and undergo QC review. The survey sheets will be maintained in the project file and used to review the CPG's reports. The information can be uploaded to the PREmis database if required.

No analytical data will be generated.

Documentation and Records: Records of observed species will be documented on field forms provided in Appendix I of this QAPP Addendum. All field activity and deviations will be documented on the survey sheets and additional information in project logbooks.

The Habitat Identification Survey procedures are documented in Attachment R of the CPG's Benthic QAPP and Worksheet # 11 of the CPG's Benthic QAPP Addendum No. 3: Habitat Identification Survey. Oversight observations will be documented in the following:

1. Field logs/logbooks
2. Oversight Summary Report

All procedures will be documented in accordance with TSOP 4-1 provided in Appendix C of the CDM Final QAPP.

Assessment/Audit Tasks: See CDM Final QAPP for assessment tasks (CDM 2009)

QAPP Worksheet #14
Summary of Project Tasks

Data Review Tasks: The CPG Habitat Identification Survey Data Report will be reviewed by CDM. A data evaluation may be performed based on CPG compliance with the approved QAPP. A comparison of CDM's field staff observations with the CPG data report will be included in the data evaluation and submitted to the USACE.

QAPP Worksheet #16
Project Schedule Timeline Table

Activities	Organization	Anticipated Date(s) of Initiation	Anticipated Date of Completion	Deliverable	Deliverable Due Date
Prepare and submit: Oversight QAPP Addendum #6 Habitat Identification Survey to EPA and USACE	CDM	June 2010	July 9, 2010	UFP-QAPP addendum	July 9,2010
Prepare and submit: Final Oversight QAPP Addendum for Habitat Identification Community Survey	CDM	As soon as comments are received	July 2010	UFP-QAPP addendum	July 2010
Oversight of Habitat Identification Surveys	CDM	August 2010	4 days after commencement date	Summary report of field observations including photographs	To be determined
Oversight /Data Evaluation	CDM	To be determined	To be determined	Oversight Summary Report/ Data Quality Summary Report	To be determined
Review CPG Habitat Identification Community Survey Data Report	CDM	90 days after each survey event	1 month after receipt of report	Comments on Habitat Identification Community Survey Data Report	1 month after receipt of report

QAPP Worksheet #18
Sampling Locations and Methods/SOP Requirements Table

Survey Location ID	Depth	Analytical Group	Concentration Level	Estimated Number of Samples (identify field duplicates)	Sampling SOP Reference	Rationale for Sampling Location
Refer to QAPP prepared by Windward Environmental (Windward) for the CPG	Not applicable	Not applicable	Not applicable	All survey locations will be observed.	Attachment R (SOP-Collection and Processing of Sediment Grab Samples) of CPG Benthic QAPP Addendum (Windward 2010)	See Worksheet 10 "The rationale for sample locations" section, Worksheet 11, of the CPG Benthic QAPP prepared by Windward (2009)

Notes:

Refer to the Benthic QAPP prepared by Windward for the CPG (Worksheet # 10 and 11 and Figure 1) titled, Benthic QAPP Addendum No. 3: Habitat Identification Survey (June 4, 2010).

QAPP Worksheet #37

Usability Assessment

An Oversight Summary Report and Data Quality Summary Report will be prepared by CDM personnel. Frank Tsang, Task Order Manager, will be responsible for its content and for assigning this task to CDM personnel. The Data Quality Summary Report will include a comparability review and usability assessment of the data. Data will be documented in the CPG's Habitat Identification Community Survey Data Report. The Data Quality Summary Report will include an overall assessment of the CPG's data using field oversight observations of deficiencies and compliance.

Accuracy –The accuracy of the CPG data set will be measured qualitatively by assessing the observed adherence of the habitat identification survey to the CPG's Benthic QAPP.

Representativeness –The representativeness of the survey data will be evaluated based on the ability to implement the habitat identification survey as written in the QAPP. A determination will be made based on the observations completed during the surveys, whether the habitat identification survey observations accurately represent habitat populations in the study area during each of the seasonal surveys, and whether the results are comparable with those made in previous surveys.

Comparability –The results of this oversight will be used in conjunction with the CPG's data to support the survey results. The surveys will be observed and data reported in a manner that is comparable to the CPG's data set.

Completeness – A completeness check will be performed. Completeness will be determined based on whether all CPG planned (or modified) survey locations were visited at the pre-determined frequencies and the obtained data set compared to the project completeness goal of 90 percent. A discussion summarizing the results of project completeness and any limitations on the use of the data will be described in the report.

The results will be presented in text of the Data Comparability Report. Data gaps will be evaluated if requested by USACE/EPA. The report will discuss the completeness of the planned and collected data and the affect on the data objective of evaluating the accuracy of the CPG's data.

References:

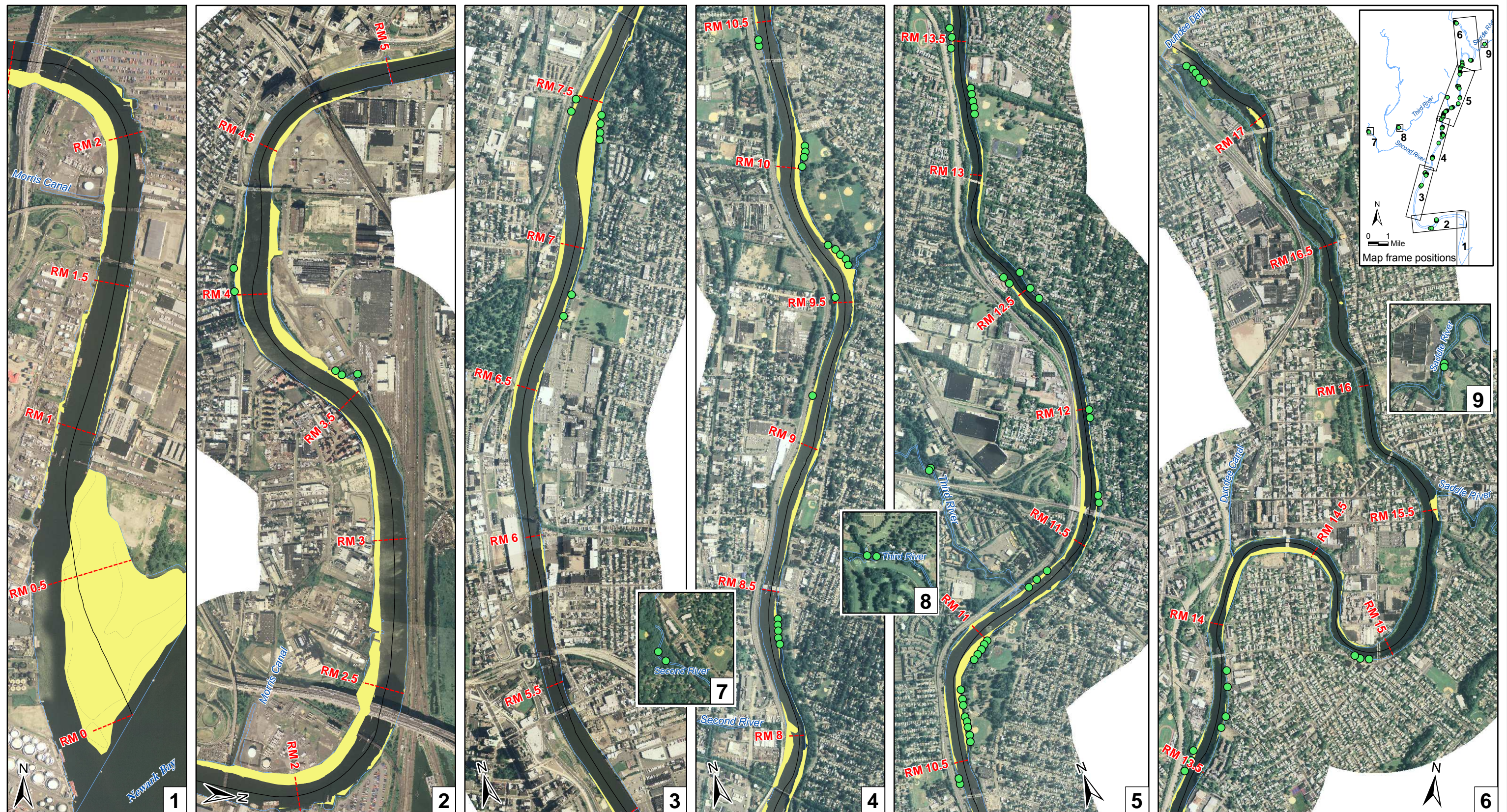
Windward Environmental LLC. 2010. Lower Passaic River Restoration Project Lower Passaic River Study Area RI/FS. *Habitat Identification Survey Addendum Number 3 to the Quality Assurance Project Plan. Surface Sediment Chemical Analyses and Benthic Invertebrate Toxicity and Bioaccumulation Testing*. Draft. June 4.

_____. 2009. *Lower Passaic River Restoration Project QAPP: Surface Sediment Chemical Analyses and Benthic Invertebrate Toxicity and Bioaccumulation Testing*. Final. October 8.

Appendix I

Figure 1 – Locations of mudflats and
accessible sediments in the LPRSA

Excerpt from CPG's QAPP: *Surface Sediment Chemical
Analyses and Benthic Invertebrate Toxicity and
Bioaccumulation Testing*
dated June 4, 2010



Appendix J

Lower Passaic River Habitat Survey Oversight Form

June 9, 2010

Lower Passaic River Habitat Survey Oversight Form

CDM Oversight Staff: _____

Date: _____

Starting point location: _____

End point location: _____

Time	Start point Coord.		End point Coord.		Tidal Cycle	Weather	Shoreline Category	Notes on Human Access/Exposure	Notes on Habitat
	Northing	Easting	Northing	Easting					
Misc. Notes:									

Starting point location: _____

End point location: _____

Time	Start point Coord.		End point Coord.		Tidal Cycle	Weather	Shoreline Category	Notes on Human Access/Exposure	Notes on Habitat
	Northing	Easting	Northing	Easting					
Misc. Notes:									

Shoreline Categories:

AV - Aquatic vegetation

MV - Mixed vegetation

BH - Bulkhead

RR - Riprap

Human access/exposure may include:

Accessibility of shoreline such as fences, buildings etc that may affect acces.

Shoreline and intertidal characteristics such as substrate, presence of bulkhead or riprap, etc.

Shoreline features such as parks/green space, docks, ramps, benches, etc.

Evidence of human use (e.g., recreational activities), residential properties, etc.

Habitat observations may include:

Plant communities (e.g., emergent marsh scrub-shrub etc), and dominant plant species noted.

Habitat features such as overhanging vegetation, woody debris, snags, etc.

Observations of fauna.

Tidal flat characteristics such as slope and substrate.